Technical Datasheet

4U CDU (Coolant Distribution Unit)

BOYD TRUSTED INNOVATION

4U Coolant Distribution Unit

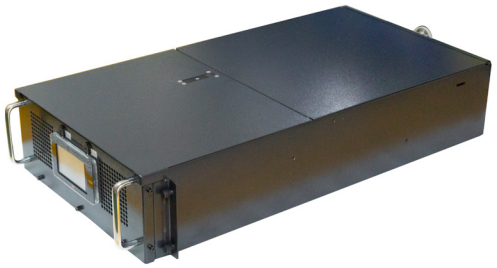
As computing chip power increases, liquid cooling becomes the necessary solution to replace conventional air cooling. Boyd's new 4U Liquid-to-Liquid Cooling Distribution Unit (CDU) is a state-of-the-art cooling system that maximizes cooling capability in its given volume. This benefit increases IT equipment's packaging density into a rack while adequately cooling the electronics using Boyd's cold plates and manifolds.

Depending on heat load and approach temperature requirement, Boyd's 4U CDU has a typical capacity of 80 kW. With industry-standard liquid ports and electrical connections, the system is ready for quick field installation and effortless operation. The 4U CDU has high reliability with built-in N+1 redundancies with power supply and pumps. The large LCD provides easy parameter controls and displays.

Whether you need a CDU for data center deployment, system burn-in testing, or development lab testing, this product will provide worry-free cooling. This unit seamlessly works with Boyd's rack manifold and cold plate loops for a complete end-to-end liquid cooling solution.

System Features of 4U CDU

- N+1 redundancy for pump, fan and power supply
- Redundant pump, power supply, and temperature-sensor
- Pump speed-control for increased energy efficiency
- Pump dry-run protection for added reliability
- Simplified installation with tool-free connection
- Industry-standard communication for remote control and monitoring
- Constant temperature, pressure, and flow control
- Dynamic dew-point temperature control preventing condensation
- Auto coolant replenishing and overflow protection
- By-pass loop for standby operation
- Automatic system/manifold leakage detection and mitigation
- Integrated relief valve for safety, protection, and pressure regulation

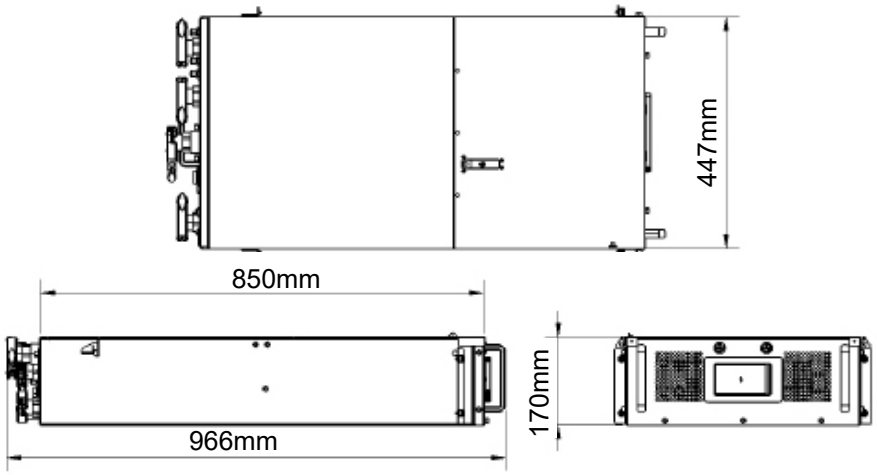


Performance Specifications for 4U CDU

Category	Value	Remarks
Cooling Capacity	80 kW	9.5 ºC approach temperature
Power Consumption	0.8 kW	
Power Supply	100 - 240 VAC, 50/60 Hz	
Temperature Range of FSW* Supply	Up to 45 ºC	Compatible with ASHRAE W4
Flowrate of FWS	Up to 140 LPM	
Maximum FWS	145 psi (10 bar)	
Flowrate Range of TCS**	10 - 100 LPM	Contact Boyd for special requirements
Pressure Drop Set Range of TCS	4.4 - 21.8 psi (30 - 150 kPa)	
Temperature Set Limits of TCS	25 - 60 ºC	Typically 40 ºC
Temperature Control Stability of TCS	± 1.5 ºC	Contact Boyd for additional information
FWS Port Size	1.5” Sanitary Flange (Tri-clamp)	QD for option
TCS Port Size	1.5” Sanitary Flange (Tri-clamp)	QD for option
TCS Test Pressure	5 bar	Except the reservoir
Dry Weight	≤ 62 kg	
Outline Size (L x W x H)	982 x 450 x 175 (mm)	
Electric Insulation	>10 MΩ	>1500 V/1 min
Earth Resistance	<4Ω	

***FWS: Facility Water System, also referred as Primary Loop, **TCS: Technology Cooling System, also referred as Secondly Loop**

Physical Dimensions



To receive more information on CDU customization, visit us at www.BoydCorp.com.